



2005 US-China Standards & Conformity Assessment Workshop

2005年美中标准与合格评定研讨会

Session F – Oil & Natural Gas

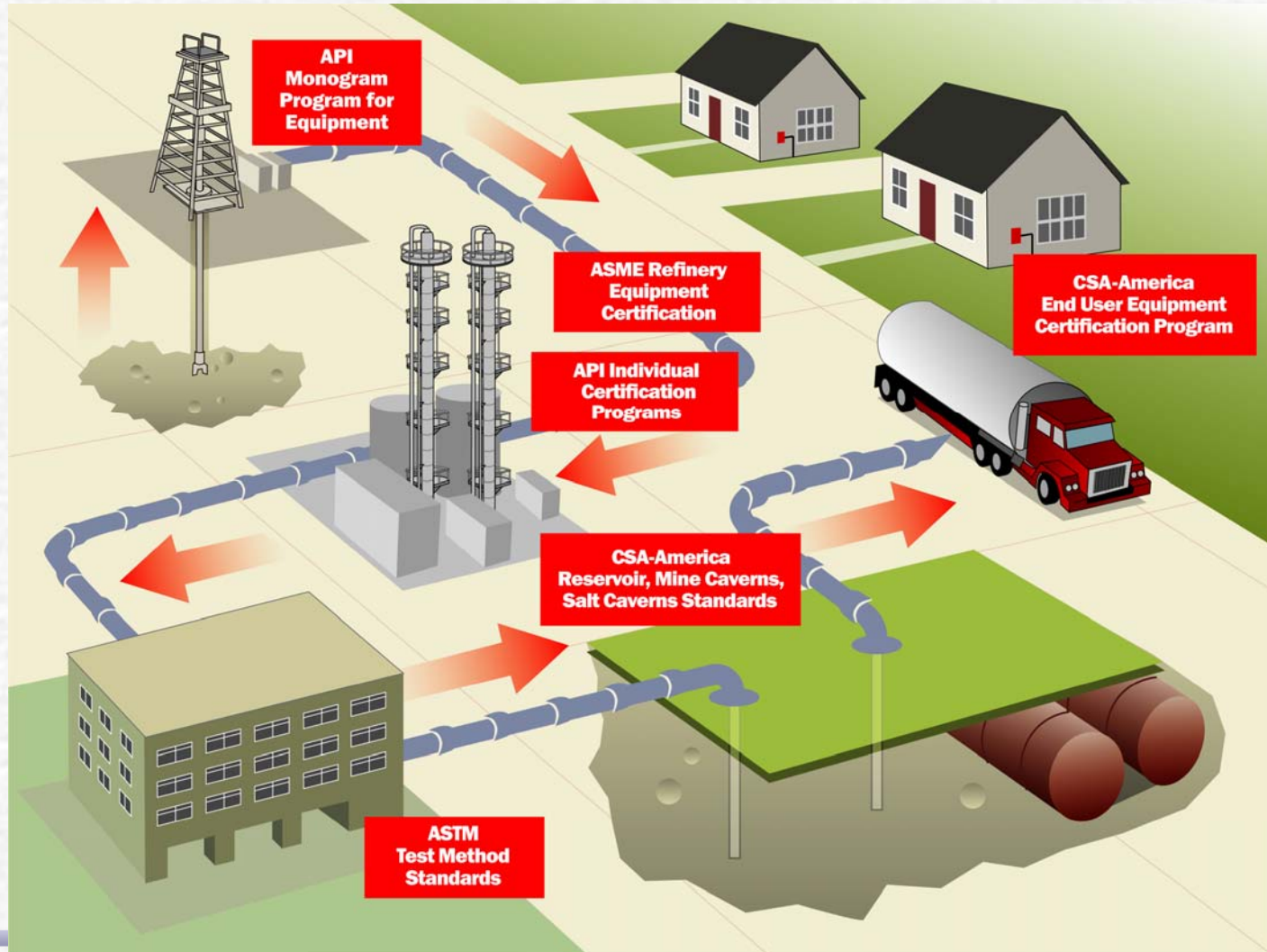
会议F – 石油和天然气

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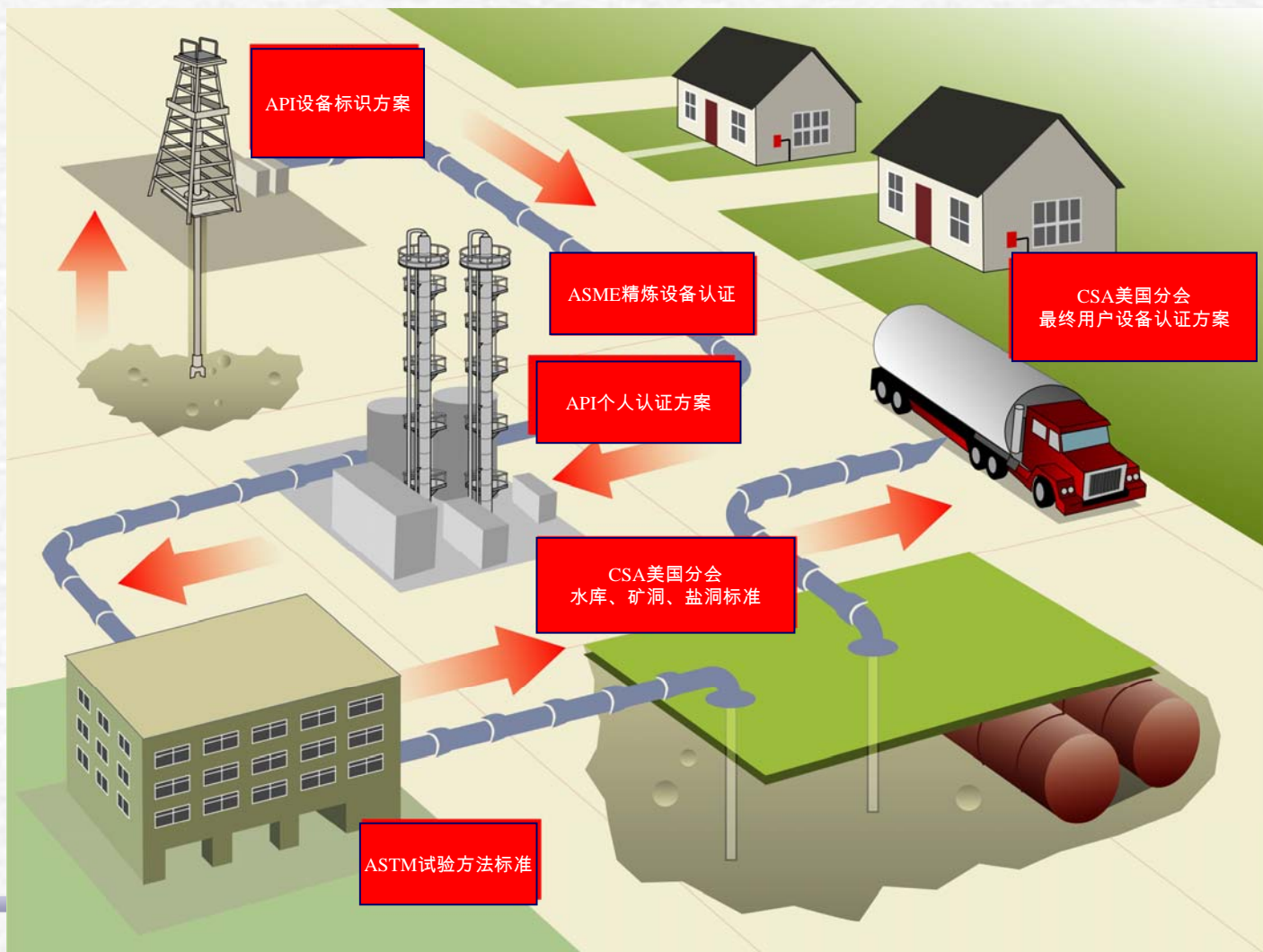


Session F – Oil & Natural Gas

会议F – 石油和天然气



会议F – 石油和天然气



Session F – Oil & Natural Gas Standards & CA Panel

- ✦ Moderator: David Miller, API
- ✦ ASTM (Test Methods), Janet Lane, ExxonMobil, Chair, ASTM D02.06
- ✦ ASME (Refinery Standards & CA Programs), Mark Sheehan, Managing Director, Development, Codes and Standards
- ✦ CSA America (Reservoirs, Mine Caverns, Salt Caverns & End-use Products) – Al Callahan, Manager, Standards
- ✦ API (Oil Industry Standards & Certification Programs) – David Miller, Director, Standards

会议F – 石油和天然气标准及CA 小组

- ✦ 主持人：戴维.米勒，API
- ✦ ASTM (试验方法)，詹尼特.赖恩，埃克森美孚公司，主席，ASTM D02.06
- ✦ ASME (提炼标准和CA方案)，规范和标准制订部总裁马克.希思
- ✦ CSA美国分会 (水库、矿洞、盐洞和最终产品) – 标准部经理卡拉汉
- ✦ API (石油工业标准和认证方案) – 标准部主任戴维.米勒

API's Standards & Certification Programs

Presentation will cover:

- API's History and Mission
- API's Standards and Certification Programs
- API's Strategic Direction

API的标准和认证方案

演示内容包括：

- API的历史和使命
- API的标准和认证方案
- API的战略方向

API History & Mission

- 1919: API founded as national trade association for US oil and natural gas industry
 - Trade associations represent industry before government, develop standards and conduct research
- API is only US trade association representing all aspects of oil and gas industry
 - Exploration & Production, Refining, Marketing, Pipeline and Marine Transportation

API 的历史和使命

- 1919年：API创建，它是美国石油和天然气工业方面的国家行业协会
 - 各行业协会在政府面前是业界的代表，并制订标准和开展研究
- API是惟一代表石油天然气工业各个方面的美国行业协会
 - 勘探和生产、精炼、营销、管道输送及海洋运输

Background on API Standards Program

- The API Standardization Department was formed in 1923, and the first API standard was published in 1924
- All Industry Segments now active in standardization – exploration and production, refining and marketing, and pipeline transportation

API标准方案的背景

- API标准化部门组建于1923年，第一个API标准于1924年问世
- 所有工业部门目前均积极实现标准化 – 勘探和生产、精炼和营销及管道输送

API Standards

- Foundation of Self Supporting Programs
- Basis for Worldwide Operations
- Core of Institute's Technical Authority – API now publishes ~500 technical standards covering all aspects of the oil and natural gas industry

API标准

- 自助方案的基础
- 全球运作的依据
- 协会技术权威的核心
 - API目前已公布 500个技术标准，涉及石油和天然气工业的方方面面

API Standards

Standards Add Value:

- Improved safety and reliability
- Reduced compliance costs
- Reduced procurement costs
- API has published "The Oil and Natural Gas Industry's Most Valuable Resource" report describing the value of standardization

API标准

标准增加的价值：

- 安全和可靠性提高
- 遵行费用降低
- 采购成本降低
- API已公布“石油和天然气工业的最宝贵资源”报告，其中对标准化的价值作了介绍

API Standards Committees

- API's main standards committees:
 - Committee on Petroleum Measurement, or COPM
 - Committee on Refinery Equipment, or CRE
 - Executive Committee on Standardization of Oilfield Equipment & Materials, ECS

API标准委员会

- API的主要标准委员会：
 - 石油计量委员会，即COPM
 - 精炼设备委员会，即CRE
 - 油田设备和材料标准化执行委员会，即ECS

API Standards Committees

- API's main standards committees:
 - Committee on Safety & Fire Protection, COSFP
 - Executive Committee on Drilling and Production Operations, ECDPO
 - Operations Technical Committee, OTC
- API membership is not a requirement to serve on an API standards committees

API各标准委员会

- API的主要标准委员会
 - 安全与消防委员会，即COSFP
 - 钻探和生产作业执行委员会，即ECDPO
 - 作业技术委员会，即OTC
- API会员资格并非在 API 标准委员会工作的必要条件

API Standards Committees Activities

- API Standards Committees usually meet twice a year
 - Subgroups (task forces, resource groups) meet as needed to progress work, often in conference calls or web meetings
 - Oversight Committees (like the ECS, COPM, CRE) meet to monitor work program
 - All standards balloting is done via the web
- API has published a brochure "There's always room for new ideas on an API Standards Committee" to encourage participation

API各标准委员会的活动

- API各标准委员会每年通常举行两次会议
 - 分组 (工作队、资源小组)在必要时举行会议，以期推动工作进度，通常采用电话会议或网络会议形式
 - 各种监督委员会 (如ECS, COPM, CRE) 举行会议，监督工作方案
 - 通过网络对所有标准进行投票
- API出版一份小册子，题为“总会就API标准委员会想出新点子”，以鼓励参与

API Standards

- API's standards committees are responsible for ~500 standards representing:
 - Significant body of industry knowledge
 - High quality, industry specific standards
 - Developed in an open consensus process

API标准

- API各标准委员会负责制订500个标准，这些标准：
 - 是行业知识的重要汇集
 - 是高质量的特定行业标准
 - 在公开协商一致的程序中制订

API Standards Program Accreditation

API is an ANSI
Accredited Standards
Developing Organization

- Open, Transparent
Consensus Process
- Approved and Published
Procedures
- Regular Program Audits

API标准方案认证

API是美国国家标准
协会 (ANSI) 的一个
认证标准制订组织

- 公开、透明、协商一
致的程序
- 核可后公布的程序
- 定期进行方案审查

API's Certification Programs

- API's certification programs are standards-based and include equipment and material licensing and personnel certification
- The programs help leverage the value contained in the API standards for industry

API的认证方案

- API的认证方案基于标准，包括设备和材料许可证的发放和人员认证
- 方案有助于提高API行业标准包含的价值

API's Certification Programs

☛ The primary programs are:

- Monogram with ~3000 certificates
- Individual Certification Program with ~11,600 certificates
- API Quality Registrar, with ~300 ISO 9000/14000 licenses
- Engine Oil Licensing and Certification System, with ~550 registered manufacturers

API的认证方案

☛ 主要方案有：

- Monogram方案，拥有的认证证书为3000个
- 个人认证方案，拥有的认证证书为11,600个
- API质量认证机构方案，拥有300个ISO 9000/14000许可证
- 机油许可证的发放和认证体系方案，其注册的制造商为550个

API's Strategic Direction

- In 2003 API undertook a review of its standards program to consider the impact of industry consolidation and demographics
- This effort concluded in 2004 with the formation of the new General Committee on Special Programs, or GCSP as well as other specific program actions
- The GCSP is a board level committee responsible for all non-dues programs, including standards

API的战略方向

- 2003年，API对其标准方案进行了一项审查，以审议产业联合和人口统计数据的影响
- 这项工作于2004年结束，其后组建了新的特别方案总务委员会，即GCSP，并拟定其他特定方案行动
- GCSP是一个董事级的委员会，负责包括标准在内的所有非规费方案

API's Strategic Direction

- Other actions were undertaken to ensure alignment between industry priorities and resources:
 - API's standards committees were reorganized and additional efficiencies were introduced
 - API's standards were evaluated against three criteria: regulatory importance, broad industry use, and leveraged program application

API的战略方向

- 采取其他行动，确保行业优先领域和资源之间保持协调一致：
 - API各标准委员会已改组，其效率得到提高
 - API的标准遵照三项准则进行评价：管理重要性、广泛的行业用途以及改进方案的应用

API's Strategic Direction

- A Standards Priority Matrix was completed that systematically ranks all API standards:
 - Class 1 - High Priority, "Committee Resourced"
 - Class 2 – Medium Priority, often need additional resources
 - Class 3 – Low Priority, reaffirmation/withdrawal candidates
- A Resource Model was developed to build on the Matrix results and assist committees in allocation of both committee and research resources

API的战略方向

- 标准优先等级矩阵已经完成，其中系统地排列了所有API标准的次序：
 - 等级1 – 高优先等级，“委员会提供资源”
 - 等级2 – 中优先等级，通常需要追加资源
 - 等级3 – 低优先等级，再次确认/取消候选者
- 建立了资源模型，以便利用矩阵结果，并协助各委员会分配委员会资源和研究资源

Resource Model Example

资源模型范例

API STANDARDS RESOURCE MODEL

Total Request (Part 1+Part 2): **\$50,000**

PART 1 – Committee Resources

Designation (e.g., RP2A): RP 6A - HP		Design Basis for Equipment with Working Pressure Greater than 15,000 psi			
Standards Matrix Ranking (H, M, or L): H		Proposed Action: Form an industry task group to oversee the work of a contractor to develop a new RP for high pressure equipment			
Chair ("\$ amount needed or volunteer")	Content Management ("\$ amount needed or volunteer")	TG/WG (estimated number of volunteers needed)	Consensus Body (specific voting group)	Management Group (ECS, CRE, COPM, etc.)	Resource Request (\$ and/or people)
Volunteer	\$50,000	10 to 15	V6A	ECS	Volunteer chair and task group plus \$50,000 for content management
RESOURCE PLAN					
What is the business need for the proposed action? Present API Specifications have few references to equipment in sizes necessary for deepwater drilling, completion, and production for working pressures greater than 15 ksi. As industry moves further into deepwater and encounters higher pressure and temperature reservoirs new, design methodologies need to be introduced into API standards to allow for equipment to be designed, fabricated, tested, and inspected more effectively.					
What is the scope of the standard? API addresses the design method for drilling and completion equipment in three documents, API 6A, 16A, and 17D Specifications. Each of these specifications reference ASME Section VIII Division 2 as a design method for allowable stresses for working and test pressures with the thick wall sections necessary. However, each standard has slightly different allowable stresses for membrane and bending stresses. In the 1980's API 6A first referenced ASME Section VIII Division 2 as the design method because it was the best method available at the time.					
This proposal recommends an industry effort for API to develop a design basis for 20 ksi equipment in the sizes necessary for deepwater drilling and development. Design requirements should use ASME Section VIII Division 3 as the referenced design basis. If Division 3 can be adopted as a reference to API requirements, as a Recommended Practice, it will provide a thorough method of design which includes greater material, fabrication, and QA/QC requirements and allows for a hydrostatic test pressure of 1.25 times working pressure. It should also require the User to detail performance criteria for design fatigue analysis.					

ECS

This information is the combined rankings or column "D" from the matrix. Below is how the ranking

Column (A): Ranked either 1 or 5, with 1 being "low or no" and 5 being "high or yes" (not based solely on Column (B): Ranked either 1 or 5, with 1 being "no" and 5 being "yes"
 Column(C): Ranked from 1 to 5, with 1 being "none" and 5 being "universal"; universal could include, Column (D): Sum of columns A, B, and C

~Class 1 represents standards with a rating of 11-15

~Class 2 represents standards with a rating of 6-10

~Class 3 represents standards with a rating of 1-5

Standard	Rank
2C	15
5CT	15
5L	15
6A	15
6AV1	15
14A	15
10A	15
10D	15
11ER	15
17D	15
5B	14
6D	14
8C	13
4F	13

Standard	Rank
15LR	11
16A	11
16D	11
17E	11
17F	11
17J	11
17K	11
19B	11
2F	10
2FPS	10
5C3	10
5D	10
14B	10
4G	10

Standard	Rank
5C2	7
5A3	7
14L	7
6H	7
7A1	7
10TR1	7
10TR2	7
7B-11C	7
11BR	7
11D1	7
11L6	7
11N	7
11S3	7
11S4	7

Standard	Rank
11AR	6
11G	6
11IW	6
11S	6
11S2	6
11S7	6
11S8	6
11V6	6
13C	6
13D	6
13I	6
2A	5
2N	5
2S	5

API's Strategic Direction

- The Resource Model is being used for 2006 and future budget planning
- API is also developing an overall strategic plan for its standards and special programs
- The plan anticipates greater emphasis on leveraged programs

API的战略方向

- 目前正在利用资源模型进行2006年及未来预算规划
- API还在为其标准和特别方案制订综合战略计划
- 这项计划预计将更加侧重于经过改进的方案

API's Standards Program

API的标准方案

➤ THANK YOU! 谢谢!

➤ For more information (了解更多信息的方式):

- API's website (API的网址): www.api.org
- API's online catalog (API的在线目录): www.api.org/cat
- Online Publication Orders (在线出版物订单):
www.global.ihs.com
- API's main phone number (API总机号码):
+1-202-682-8000
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